Costs of the Blister Packaging Intervention

Units and Unit Costs (2016 US $) per Dispensed Prescription*		
	Unit Cost ($, 2016)	Source
Blister Packaging, per prescription		
Filling blister card, Labor only (per 31 count card)	1.05 X bulk dispensing cost	Expert opinion
Memory Pac® 31 Count Blister Card	$0.46	VA RCT purchasing records, 2012
Memory Pac® 28 Count Weekly Blister Card	$0.48	VA RCT purchasing records, 2012
Memory Pac® 90 Count Blister Card	$0.52	VA RCT purchasing records, 2012
Bulk Dispensing, per prescription		
Dispensing, Labor only (per 30 day fill)	7.92	Decision Support System
Bottle & cap (Friendly and Safe Vial with Child Resistant Cap Attached, 16 Dram)	$0.02	http://www.gohcl.com/ accessed 1.5.17

Total VA Costs

- Total healthcare costs for 12-month trial period
- Estimated using the Decision Support System (DSS) and included cost of medication (ingredients and dispensing), inpatient and outpatient costs.
- The intervention included every medication regardless of indication, therefore all healthcare utilization and cost was included.

Total VA Healthcare Cost

- Mean costs/subject ranged from $157 (DAU) to $181,412 (intervention)
- We found no statistically significant differences by study arm.

Mean Cost of VA Health Services During 12-months of Follow-up ($ 2016)		
	Blister Pack, mean (SD) (n=119)	DAU, mean (SD) (n=123)
Total Inpatient	**5,946 (17,324)**	**6,738 (17,337)**
Total Outpatient	**21,173 (16,651)**	**22,402 (20,921)**
Behavioral Health	9,710 (9,205)	11,194 (12,163)
Emergency Department	524 (760)	602 (1,068)
Total Pharmacy		
Ingredient Cost	1,473 (1,703)	1,592 (2,390)
Dispensing Cost (labor, packaging)	275 (202)	316 (249)

Modeling Total VA Healthcare Cost

- Trial arms had significantly different baseline numbers of prescription medications.
- Generalized linear model (GLM) with gamma family (Modified Parks Test) and log link function:
  - Blister packaging was not significant.
  - Significant explanatory factors: older AND male, total inpatient days 12 months prior to enrollment, and drug abuse or bipolar disorder or major affective disorder dx.

Mortality and Quality of Life

- All subjects survived the study period
- 2,242 SF-36 forms were completed by the 243 participants
- Summary preference scores (utilities) for each completed survey ranged from 0.30 to 1.0
- QALYs for the 12-month trial period did not vary by study arm.

Mean Utilities Derived from SF-6D and Associated Mean QALYs*		
	Blister Pack, mean (SD)	DAU Mean (SD)
SF-6D Utilities		
Baseline	0.575 (0.112)	0.573 (0.093)
Month 3	0.590 (0.107)	0.590 (0.103)
Month 6	0.598 (0.109)	0.577 (0.099)
Month 9	0.597 (0.094)	0.590 (0.084)
Month 12	0.597 (0.051)	0.586 (0.036)
Mean QALY	0.591 (0.120)	0.580 (0.108)
Mean differential QALY (95% CI)	0.011 (-0.008 – 0.031)	

Incremental Cost-Utility Ratio (ICER)

- ICER was calculated as follows:

$$\frac{\text{Mean Cost}_A - \text{Mean Cost}_B}{\text{Mean QALYs}_A - \text{Mean QALYs}_B}$$

Where A is the intervention (blister pack) group and B is the control (dispense as usual) group.

- Bootstrapping was used to create an acceptability curve to illustrate the probability that the ICER falls below the cost per QALY threshold.

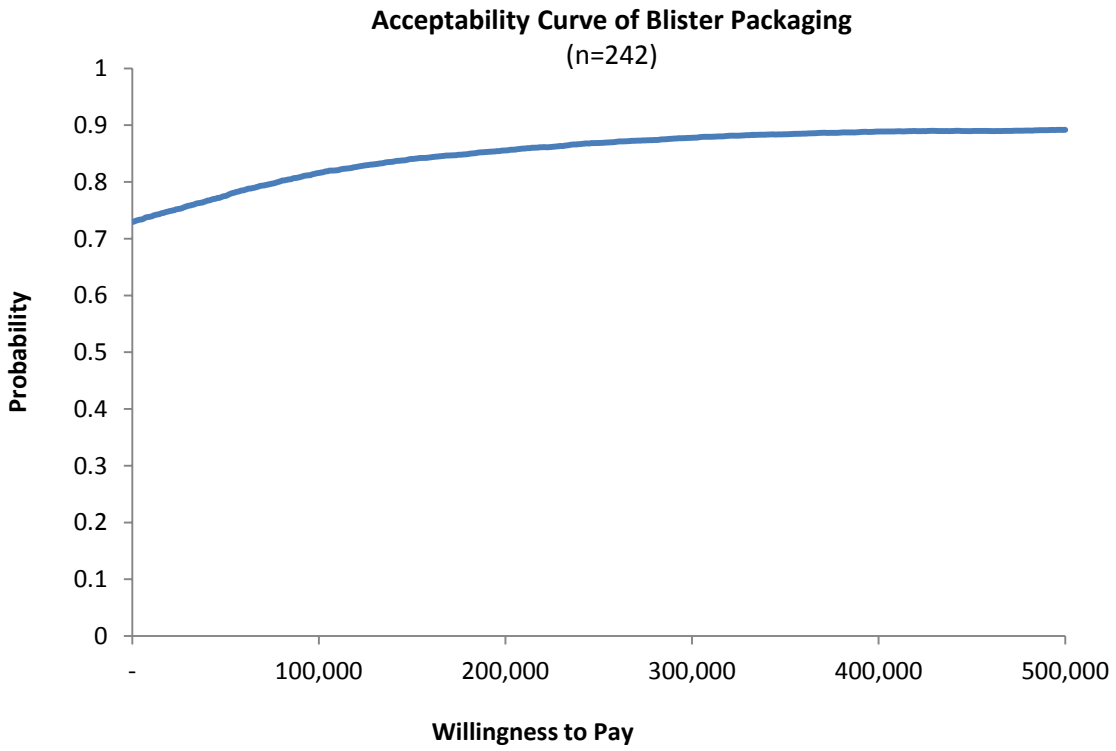
Cost-Utility Analysis

Costs, Outcomes and the Incremental Cost-Utility Ratio						
Group	**Mean Total Cost ($ 2016)**	**Cumulative QALY, mean**	**ICER**	**P(CE) at $50,000 (WTP)**	**P(CE) at $300,000 (WTP)**	**Ceiling Ratio at P(CE)=0.95**
Blister Pack (n=119)	28,591	0.59		0.775	0.878	NA
DAU (n=123)	30,732	0.58				
Difference (% CI)	-2,140 (-9,053 – 4,773)	0.04 (-0.01 – 0.03)	Blister Dominant (not stat sig)			

- Cost and QALY point estimates suggest that blister packaging was dominant (less expensive and more effective), however, differences were not statistically significant.
- As previously noted, costs and QALYs were not significantly different across study arms.

Probabilistic Sensitivity Analysis

- At both low and high thresholds of willingness to pay ($50,000/QALY and $300,000/QALY), blister pack and DAU demonstrate similar treatment value .



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